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Filed : January 17, 2001

AMENDMENTS TO THE CLAIMS

The claims as listed below will replace all prior listings and presentations of claims in the above-identified application.

**Please Cancel Claims 52-91 without prejudice. Applicant reserves the right to pursue the subject matter of the cancelled claims in subsequent continuing applications.**

**Please amend Claims 1, 4-11, 14-17, 24, 25, 33, 34, 39, 41-44, 48 and 51 and add new Claim 92 as indicated below:**

1. (CURRENTLY AMENDED) A method of controlling usage of a utility, the method comprising:

providing a control system at a consumer site;

receiving in said control system a representation of a utility ~~service~~-usage by a utility-consuming device, at a load said representation of utility usage comprising measured values of at least one output of said device as well as measured values of at least one utility input delivered to said device;

receiving and storing in said control system a usage range representation for said device comprising at least one pre-determined value of an expected output of said device and at least one pre-determined expected value of a utility delivered to said device; and

producing a control signal for use by a utility service-~~interrupter~~ controller, when said measured output and input values are ~~usage is outside~~ of said usage range representation for said device, said control signal being operable to cause said utility service ~~interrupter-controller~~ to interrupt or adjust a supply of said utility service to said ~~load~~ device.

2. (ORIGINAL) The method of claim 1 further comprising transmitting said control signal to said utility service-~~interrupter~~ controller.

3. (ORIGINAL) The method of claim 1 wherein receiving said usage range representation comprises receiving user input specifying said usage range representation.

4. (CURRENTLY AMENDED) The method of claim 1 wherein receiving said usage range representation comprises receiving a message from a communications system.

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5. (CURRENTLY AMENDED) The method of claim 4 wherein receiving said usage range representation comprises extracting said usage range representation from said message according to a network protocol.

6. (CURRENTLY AMENDED) The method of claim 1 wherein receiving said representation of utility usage comprises receiving a plurality of representations of said utility service usage representing ~~said utility service usage at said load~~ usage of more than one utility by said device.

7. (CURRENTLY AMENDED) The method of claim 6 wherein receiving and storing comprises receiving and storing a plurality of usage range representations for a plurality of devices.

8. (CURRENTLY AMENDED) The method of claim 6 wherein producing said control signal comprises producing a derived representation from said plurality of representations of said utility service usage and producing said control signal when said derived representation is outside of said usage range representation.

9. (CURRENTLY AMENDED) The method of claim 7 wherein producing said control signal comprises comparing said representations of said utility service usage with respective usage range representations and producing said control signal when a set of representations of said utility service usage is outside of a corresponding set of usage range representations.

10. (CURRENTLY AMENDED) The method of claim 1 further comprising storing said representation of said utility service usage.

11. (CURRENTLY AMENDED) The method of claim 10 further comprising displaying said representation of said utility service usage.

12. (ORIGINAL) The method of claim 1 further comprising storing an indication of whether or not said control signal is active.

13. (ORIGINAL) The method of claim 12 further comprising displaying said indication.

14. (CURRENTLY AMENDED) The method of claim 1 further comprising transmitting said representation of said utility service usage to a remote location.

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15. (CURRENTLY AMENDED) A computer readable medium for providing instruction codes executable by a programmable device, for directing said programmable device to:

receive in said device a representation of a measurement of at least one utility service usage at consumed by a load device and of at least one product of utilization of said at least one utility by said load device;

receive and store in said device a usage range representation associated with the load device; and

produce a control signal for use by a utility service interrupter, when said usage is outside of said usage range representation, said control signal being operable to cause said utility service interrupter to interrupt a supply of said utility service to said load device.

16. (CURRENTLY AMENDED) A computer data signal embodied in a carrier wave, the signal comprising code segments for directing a programmable device to:

receive in said device a ~~representation of a~~ measurement of a quantity of a utility service usage at consumed by a load and a measurement of at least one parameter indicative of an efficiency of the load;

receive and store in said device a usage range representation associated with a specific load device, the usage range representation comprising a value of expected utility usage by the load device; and

produce a control signal for use by a utility service interrupter, when said utility service usage is outside of said usage range representation, said control signal being operable to cause said utility service interrupter to interrupt a supply of said utility service to said load.

17. (CURRENTLY AMENDED) An apparatus for controlling usage of a utility, the apparatus comprising:

a communications device operable to receive a representation of utility service usage at of a load device, said representation of utility service usage comprising a measured value of at least one product of utilization of the load, the communications

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device also being and operable to receive a usage range representation comprising an expected value of said at least one product of utilization;

a data storage device operable to store said usage range representation; and

a controller, in communication with said communications device and said data storage device, said controller being operable to produce a control signal for use by a utility service interrupter, when said utility service usage is outside of said usage range representation, said control signal being operable to cause said utility service interrupter to interrupt a supply of said utility service to said load device.

18. (ORIGINAL) The apparatus of claim 17 wherein said controller further comprises a control signal generator operable to produce said control signal.

19. (ORIGINAL) The apparatus of claim 18 wherein said controller further comprises a processor circuit incorporating said control signal generator.

20. (ORIGINAL) The apparatus of claim 17 wherein said communications device is operable to transmit said control signal to said utility service interrupter.

21. (ORIGINAL) The apparatus of claim 17 wherein said communications device is operable to receive user input specifying said usage range representation.

22. (ORIGINAL) The apparatus of claim 19 wherein said communications device is operable to receive a message from a communications system.

23. (ORIGINAL) The apparatus of claim 22 wherein said processor circuit is operable to extract said usage range representation from said message according to a network protocol.

24. (CURRENTLY AMENDED) The apparatus of claim 19 wherein said communications device is operable to receive a plurality of representations of said utility service usage representing said utility service usage at said load device, and operable to receive a plurality of usage range representations.

25. (CURRENTLY AMENDED) The apparatus of claim 24 wherein said data storage device is operable to store said plurality of usage range representations.

26. (ORIGINAL) The apparatus of claim 24 wherein said processor circuit is operable to produce a derived representation from said plurality of representations of said

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utility service usage, and operable to cause said control signal generator to produce said control signal when said derived representation is outside of said usage range representation.

27. (ORIGINAL) The apparatus of claim 25 wherein said processor circuit is operable to compare said representations of said utility service usage with respective usage range representations and operable to cause said control signal generator to produce said control signal when a set of representations of said utility service usage is outside of a corresponding set of usage range representations.

28. (ORIGINAL) The apparatus of claim 17 wherein said data storage device is operable to store said representation of said utility service usage.

29. (ORIGINAL) The apparatus of claim 19 further comprising an annunciation device operable to display said representation of said utility service usage.

30. (ORIGINAL) The apparatus of claim 29 wherein said data storage device is operable to store an indication of whether or not said control signal is active.

31. (ORIGINAL) The apparatus of claim 30 wherein said processor circuit is operable to direct said annunciation device to display said indication.

32. (ORIGINAL) The apparatus of claim 17 wherein said communications device is operable to transmit said representation of said utility service usage to a remote location.

33. (CURRENTLY AMENDED) An apparatus of controlling usage of a utility, the apparatus comprising:

a receiving means for receiving a representation of a utility service usage at a of a load device, the representation of utility service usage comprising at least one value of said utility input to the device and a value of at least one output of the load device;

a receiving and storing means for receiving and storing a usage range representation; and

a producing means for producing a control signal for use by a utility service interrupter, when said usage is outside of said usage range representation, said control signal being operable to cause said utility service interrupter to interrupt a supply of said utility service to said load.

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34. (CURRENTLY AMENDED) A method of controlling a supply of a utility service to a load device, the method comprising:

receiving a control signal indicating that a usage of said utility service at said load device is outside of a usage range representation;

analyzing a flow interruption procedure associated with the load device; and

interrupting the supply of said utility service to said load in response to said control signal if pre-determined conditions of said flow interruption procedure are met.

35. (ORIGINAL) The method of claim 34 wherein receiving comprises receiving said control signal at a communications device in communication with a utility service interrupter.

36. (ORIGINAL) The method of claim 34 wherein interrupting comprises actuating a valve.

37. (ORIGINAL) The method of claim 34 wherein interrupting comprises actuating a switch.

38. (ORIGINAL) The method of claim 34 further comprising producing a representation of said usage of said utility service by said load, for use by a controller operable to produce said control signal.

39. (CURRENTLY AMENDED) The method of claim 38 further comprising transmitting said representation of said usage to said controller.

40. (ORIGINAL) The method of claim 38 wherein producing comprises measuring said usage of said utility service by said load to produce a measurement value representing said usage of said utility service by said load.

41. (CURRENTLY AMENDED) The method of claim 40 wherein producing comprises producing said representation of said usage from said measurement value.

42. (CURRENTLY AMENDED) A computer readable medium for providing instruction codes executable by a programmable device, for directing said programmable device to:

receive in said device a control signal indicating that a usage of a said-utility service-by a at said-load device is outside of a usage range representation which

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includes an efficiency of said load or an expected utility consumption value of said load; and

interrupt the supply of said utility service to said load in response to said control signal.

43. (CURRENTLY AMENDED) A computer data signal embodied in a carrier wave, the signal comprising code segments for directing a programmable device to:

receive in said device a control signal indicating that a usage of ~~said~~ a utility service at-said-by a load device is outside of a usage range representation associated with the load device, wherein said usage of said utility service comprises a value of at least one output of the load device; and

interrupt the supply of said utility service to said load in response to said control signal.

44. (CURRENTLY AMENDED) An apparatus for controlling a supply of a utility service to a load device, the apparatus comprising:

a communications device operable to receive a control signal indicating that a usage of said utility service ~~at-by~~ said load device is outside of a usage range representation associated with the load device, the usage range representation comprising data selected from the group consisting of an efficiency rating, a flow rating and a quantity of a secondary by-product of said load; and

a utility service interrupter, in communication with said communications device, said utility service interrupter being operable to interrupt the supply of said utility service to said load in response to said control signal.

45. (ORIGINAL) The apparatus of claim 44 wherein said utility service interrupter is operable to actuate a valve.

46. (ORIGINAL) The apparatus of claim 44 wherein said utility service interrupter is operable to actuate a switch.

47. (ORIGINAL) The apparatus of claim 44 further comprising a processor circuit operable to produce a representation of said usage of said utility service by said load, for use by a controller operable to produce said control signal.

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48. (CURRENTLY AMENDED) The apparatus of claim 47 wherein said communications device is operable to transmit said representation of said usage to said controller.

49. (ORIGINAL) The apparatus of claim 47 further comprising a measurement device in communication with said processor circuit, said measurement device being operable to measure said usage of said utility service by said load to produce a measurement value representing said usage of said utility service by said load.

50. (ORIGINAL) The apparatus of claim. 49 wherein said processor circuit is operable to produce said representation from said measurement value.

51. (CURRENTLY AMENDED) An apparatus for controlling a supply of a utility service to a load, the apparatus comprising:

a receiving means for receiving a control signal indicating that a usage of said utility service at said load is outside of a usage range representation;

an analyzing means for determining whether interruption of the utility service to the load is permitted; and

an interrupting means for interrupting the supply of said utility service to said load in response to said control signal.

52. – 91 (CANCELLED)

92. (NEW) A method of controlling usage of a utility, the method comprising:

providing a control system at a consumer site;

receiving in said control system a representation of usage of a utility by a utility-consuming device, said representation of utility usage comprising a first representation of a quality or a quantity of a utility input to said device and a second representation of a quality or quantity of a product of utilization of said device;

calculating an efficiency of said device by comparing said first and second representations;

receiving and storing in said control system a usage range representation comprising a pre-determined value of expected efficiency of said utility-consuming device; and



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producing a control signal for use by a utility service controller for controlling a flow of the utility to the utility-consuming device, when said utility usage is outside of said usage range representation.